REMARKS/ARGUMENTS

Claims 1, 14, 15 and 17-24 remain active.

Claim 1 is amended to define that the matrix consists of carbon black and that it is formed by CVD, see Claim 15 and pages 8-9 of the specification.

No new matter is added.

Applicants thank the Examiner for the courtesy of discussing this case with their undersigned representative on January 13, 2011. During this discussion, the difference between diamond like carbon (DLC) and carbon black was addressed where it was explained that DLC, as taught in the cited references, is one that is formed typically with plasma CVD or PVD like methods whereas the matrix having only carbon black is one that is formed by thermal CVD. Further, it was explained that in the formation of the matrix in the present invention using thermal CVD, DLC films would not result as in the cited prior art. Indeed, DLC is not a conductive substance (unlike that which is required in Ueno in paragraph [0045]) whereas carbon black is conductive (see paragraphs [0032] and [0033] of the present application. It was further explained that the newly cited Carbon Ref document merely describes that while both DLC and carbon black can be amorphous, that does not mean that they are the same materials nor that they could be simply exchanged for one another. The Examiner suggested imparting further clarity on the claim for the matrix and Applicants have adopted the Examiner's suggestion in the amendments submitted herein.

The present invention is related to a particle-dispersed complex in which fine ruthenium particles are dispersed in a carbon matrix. The complex can serve as a very active electrochemical catalyst used as the sensor electrode of a solid electrolyte sensor or as the electrode of an electrochemical device. Specification at [0001], abstract.

Claims 1, 15-17 and 22 are rejected under 35 U.S.C. 102(b) over U.S. Patent Application Publication No. US 2003/0026921 ("Ueno") with evidence from U.S. Patent Application Publication No. US 2004/0129202 ("Gruen"), "Ru-Doped Nanostructured Carbon Films" *Diamond and Related Materials* 11 page 1890-1896 (2002)("Lian") and Carbon Ref. Claim 14 is rejected under 35 U.S.C. 103(a) over Ueno and further with evidence from Lian. Claims 18-21 and 23-24 are rejected under 35 U.S.C. 103(a) over Ueno and further in view of "Electrochemical Properties of Iridium-Carbon Nano Composite Films Prepared by MOCVD", *Scripta Materialia* 44, 1187-1190 (2001)("Goto") with evidence from U.S. Patent No. 5,814,719 ("Suzuki").

Ueno discloses a method for synthesizing "metal-doped amorphous (diamond-like) carbon films" using plasma assisted decomposition of metalorganic precursors. Ueno at [0009]. More particularly, a metalorganic precursor for the desired diamond-like carbon film is treated by an electron cyclotron resonance (ECR) chemical vapor deposition (CVD) technique to form a film on a substrate. Ueno at [0010].

However, Ueno does not teach a matrix consisting of carbon black obtained by thermal CVD and while Applicants appreciate that the Examiner has relied upon the teachings of Carbon Ref to conclude that Ueno's teachings include carbon black (See page 4 of the Official Action), for the reasons discussed above they are not nor does Ueno suggest the inclusion of carbon black as claimed. The secondary references fail to remedy the deficiencies of Ueno.

Gruen discloses micro-electromechanical systems (MEMS) structures fabricated from ultrananocrystalline diamond films deposited by a chemical vapor deposition (CVD) method. Gruen at abstract; [0002]; [0034]. The matrix of Lian's film is formed of diamond nanocrystallites (diamond-like carbon, DLC). Here, the DLC or the diamond nanocrystallites are believed to be insulators whereas in the present invention, DLC is not included (see

amended claims "a matrix consisting of carbon black" and the matrix is conductive in the present invention ([0033]), and, specifically, the matrix is formed of carbon black (Claim 1, [0033], [0056]). The specification at [0032] contains the following description, which implies that the matrix, like each of the metallic ruthenium particles, is conductive.

> It is preferred that the entire surface of the fine particles makes contact with at least either the matrix or the fine particles, namely, there are almost no or absolutely no holes or gaps in the interface between the fine particles and the matrix. By the bonding between the fine particles and the matrix on the entire surface of the interface thereof, and in combination with the fact that the particle diameter of the dispersed fine particles is small, the interfacial surface area making contact becomes very large, and as a result, the particle-dispersed complex is believed to obtain a **high interfacial electrical conductivity**. Further, as for the dispersion state in the matrix of the particle-dispersed complex, it is preferred that there is uniformly dispersing without aggregation. Namely, it is more preferred that the entire surface of the fine particles makes contact with only the matrix. This is because the interfacial surface area in which the matrix makes contact becomes large. Specification at [0032] (emphasis added).

Thus, in the present invention the matrix is carbon black and has conductivity.

In contrast, Ueno's DLC, Gruen's ultrananocrystalline diamond, and Lian's diamond nanocrystallites are insulators.

Thus, the cited prior art fails to suggest the independent Claim 1 limitations and as such the rejections should be withdrawn.

In view of the foregoing amendments and remarks, Applicants respectfully submit that the application is in condition for allowance. Applicants respectfully request favorable consideration and prompt allowance of the application.

Should the Examiner believe that anything further is necessary in order to place the application in even better condition for allowance, the Examiner is invited to contact Applicants' undersigned attorney at the telephone number listed below.

Respectfully submitted,

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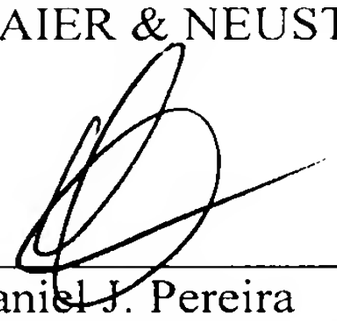
MAIER & NEUSTADT, P.C.



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